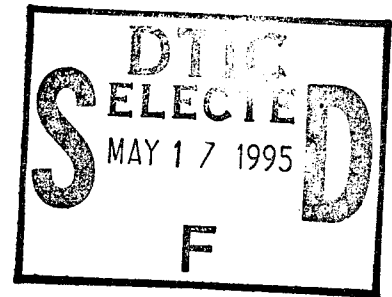


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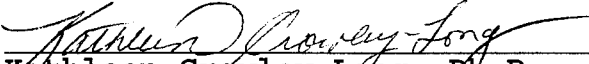
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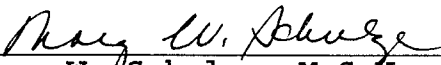
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## ABSTRACT

Title of Thesis: Locus of Control and Coping Style as Stress Moderators in Achievement Oriented Individuals

Douglas S. Mulbury, Master of Arts, 1995

Thesis directed by: Dr A.R. Brayer, Director; General Experimental Psychology

The effects of achievement motivation, locus of control orientation and preferred coping style were investigated for their relationship with subjects' reported stress symptoms.

Scales for each of these variables were administered to 100 Psychology students at the University of Hartford. The results of these self-reports were analyzed using zero-order correlations and multiple regression analysis. It was predicted that the overall multiple regression coefficient would be significant, as well as the joint effects of locus of control orientation, achievement motive, and preferred coping style on subjects' reported stress symptoms. The results indicated a lack of relationship between the independent variables and the dependent variable. An external locus of control orientation was significantly related to higher stress scores and lower achievement orientation. Higher achievement orientation was positively related to the use of active coping styles. Male subjects were slightly but significantly more internally oriented in terms of locus of control than female subjects. The findings were intended to refute the usefulness of the Type A Personality construct in predicting stress-related illness. There is evidence that there are stress moderators that may buffer high achievers from the adverse effects of stress but the relationship is complex and tenuous.

Running Head: LOCUS

Master's Thesis

Locus of Control and Coping Style as Stress Moderators

in Achievement-Oriented Individuals

Doug Mulbury

University of Hartford

## DEDICATION

This thesis is dedicated to my ever-supportive wife Renee. You gave me the strength and encouragement throughout graduate school, as you always have done. Thank you for being patient and understanding of all the weekends and late nights spent working.

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Locus of Control and Coping Style as Stress Moderators  
in Achievement-Oriented Individuals

CHAPTER I  
INTRODUCTION

The Type A Personality

Friedman and Rosenman (1974) were first to propose that Type A personality patterns contribute to coronary heart disease and other stress-related illnesses. The Type A individual is hard-driving, competitive, ambitious, achievement oriented, impatient, and extremely focused on time urgency (Robbins, Spence, & Clark, 1991). Type A individuals are thought to be in a struggle to achieve more and more in less and less time (Booth-Kewley, & Friedman, 1987). Theorizing about the Type A behavior pattern has spread far beyond its purported implications for health. It has been hypothesized that Type A individuals may perform better vocationally and academically than others. Findings (Matthews, 1988; Matthews, & Beane, 1990; Wright, 1988) suggest that Type A individuals tend to achieve more than their more relaxed counterparts, but possibly at the expense of their health.

Recently, the usefulness of the Type A personality construct has come under serious examination as it relates to stress. Many authors suggest that Type A personality is too global a definition and that there are specific personality traits of Type A individuals that are more related to stress than other traits (Matthews, Glass, Rosenman, & Bortner, 1977; Matthews, 1988). The hostility and irritability components of Type A behavior (reflecting anger, and an obsession with time) have been most often linked to stress-related illnesses.

Pred, Spence, & Helmreich (1987) found that impatience and irritability, but not achievement strivings, were positively correlated with somatic self-complaints. They argue that it is highly unlikely that the same components of the Type A behavior pattern are responsible for both vocational excellence and stress-related health problems. Additional studies (Bluer, 1990; Matthews, 1988; Robbins, et al., 1991) show that certain Type A traits like anger, impatience, and irritability are more likely to lead to stress-related health problems than achievement strivings. In a meta-analysis of twenty-one Type A studies Matthews (1988) concluded that Type A is not a reliable predictor of coronary heart disease, but that hostility is. Robbins et al. (1991) found that stress-related problems correlated only with negative affect characteristics- low self-esteem, pervasive dissatisfaction, disgust, anger, irritability, hostility, and guilt, but not achievement strivings. These authors found in terms of the Type A pattern that no single characteristic or cluster of characteristics emerged as a master construct that is successful in predicting stress-related problems. They do suggest though that the notion of the Type A pattern is of little use and that attention can more profitably be paid to the correlates of the components making up the Type A construct.

Sympathetic nervous system hyper-reactivity has often been hypothesized as the central mediating factor between the Type A behavior pattern, stress-related illness, and coronary heart disease. However, the empirical support for a relation between Type A behavior and sympathetic reactivity is equivocal. The variability in findings can be partially attributed to the heterogeneous nature of the Type A construct. Nordby and Sveback (1989) used the irritable/ impatient and hard-driving/ competitive components of the Type A pattern to see if cardiovascular reactivity under stress was differentially related to these factors. The only significant relationship was between irritability/impatience and heart rate suggesting that

there are components of the Type A pattern that differ in their relationship to task-induced physiological activation.

Bluer (1990) found that achievement strivings (reflecting the extent people take their work seriously and work hard) were positively related to performance, whereas irritability and impatience were associated with stress-related symptoms. Bluer believes it is possible to maintain high levels of positive, achievement-related components of Type A behavior without suffering the consequences of its negative components. This requires other personality characteristics, or behavioral stress-mediators that can attenuate the stress that achievement-oriented individuals might experience. Locus of control and coping strategies function in this manner and will be discussed in a moment.

There is by no means agreement as to the usefulness of the Type A construct. Studies exist (Booth-Kewley, & Friedman, 1987; Wright, 1988) touting its usefulness in predicting coronary heart disease and stress-related illness. Part of the problem in interpreting results is that like so many other psychological constructs, there exists many conceptualizations and operational definitions of Type A behavior (Booth-Kewley, & Friedman, 1987). This serves as the rationale for this thesis. Perhaps in terms of stress and stress-related illness, we should deal with specific components of the Type A behavior pattern.

Based on the previous discussion, perhaps it is possible for an individual to be high in achievement motivation and not susceptible to stress-related symptoms. Two stress-moderating variables, locus of control (LC) and coping strategies, are discussed next.

### Locus of Control

The single personality characteristic acting as a stress-mediator to which stress researchers have paid the most attention is locus of control (Kobassa, 1993). Control is expressed as a tendency to feel and act as if one is influential (rather than helpless). Individuals with an internal LC believe their reinforcements are contingent on their own behavior, capacities, and attributes. External LC individuals believe their reinforcements are under the control of powerful others, luck, or fate (Rotter, 1966). Internal LC individuals possess a pervasive, enduring feeling of confidence that one's internal and external environments are predictable and that there is a high probability that all things will work out as well as can be expected dependent on their own efforts (Kobassa, & Puccetti, 1983). This implies the perception of oneself as having a definite influence on life events through the exercise of imagination, skill, knowledge, and choice. Internal LC individuals also tend to have higher achievement motivation, be more purposeful and goal-directed, be more extroverted, sociable, active, and less neurotic and dogmatic than externals (Ormel, & Schaufeli, 1991). LC is a strong positive correlate of mental strain. Externals tend to report more negative moods when faced with stressful events. Internals tend to perceive less stress, and have better coping skills (Arsenault, Dolan, & Ameringen, 1991).

Much research shows the relation between LC and stress. Antonovsky (1979) proposed the construct of stress-resistance resources (a combination of internal locus of control and a supportive social network) as the most beneficial moderator of stress.

Pilisuk and Montgomery (1993) feel that LC may be the central psychosocial variable in resistance to stress-related illness. They found that an external LC was related to a greater

number of stress-related somatic symptoms than an internal LC, and that LC was a reliable predictor of stress-related physical symptoms. These authors believe that one's sense of control may affect the types of coping strategies used and this is the link between LC and stress.

An eight year longitudinal study by Ormel and Schaufeli (1991) attempting to look at psychological distress over time and certain personality variables (including LC), found that two-thirds of the true variance in stress symptoms among subjects was attributed to between-subjects variation in stable, characteristic stress symptom levels. Only one-third of the variance was due to changes in life events that caused subjects' distress level to deviate from its stable, characteristic level. LC contributed significantly to subjects' stable stress levels. These findings suggest that personality models (which assume that stress symptom levels depend primarily on personality factors) are more valid than exogenous models (which emphasize the disruptive effects of exogenous life events on stress symptom levels) when explaining changes in stress levels over time.

In two occupational stress studies, Parkes (1986) and Rhodewalt, Sansone, Hill, Chenes, and Uyssocki (1991) found that internal LC subjects experienced less stress, even with increased work demands, than external LC subjects.

LC orientation may influence reactions to stressors through use of specific types of coping strategies. Although coping strategies will be discussed in detail later, an interesting study illustrates the influence of LC on the cognitive threat appraisal process and choice of coping strategy. Stress is a function of the potentially threatening event, the individual's appraisal of the event to determine if it is threatening, and the coping responses chosen in

response to appraisal. Folkman and Lazarus (1984) believe that one's beliefs about their mastery over the environment may have significant effects on threat appraisals. Vitaliano, Russo, and Mairuro (1987) found evidence supporting this. External LC subjects were ten times as likely to be threatened by a stressor than internals. Internals were much more accepting of stressors that were deemed unchangeable. These authors suggest that this acceptance of the immutability of certain situations may be more adaptive than non-acceptance.

In a longitudinal study examining the relation of personal and social resources (including LC) on the development of Post Traumatic Stress Disorder (PTSD) among combat veterans, Solomon (1988) found that more intense PTSD was associated with an external LC and the use of emotion-focused coping strategies. Although the value of different coping strategies will be discussed later, emotion-focused coping is positively related to affective disorders. In this study, internal locus of control subjects tended to use more instrumental coping strategies and engaged in less task-irrelevant self-preoccupation during combat.

Two studies (Cole, & Sapp, 1988; Heilbrun, 1989) examined the relationship between LC and achievement motivation. Both studies found LC and achievement motive to be not significantly correlated, and that external LC subjects reported more somatic stress symptoms than internals. Other authors (Mehrabian, 1993) report that internal LC individuals tend to be higher in achievement motivation than externals.

### Hardiness

Kobassa (1982, 1993) has contributed much of the work on the relationship between LC and stress by proposing the construct of hardiness. Hardiness consists of the personality dispositions of commitment, control, and the desire for challenge, with an internal LC being the central aspect of the conceptual and operational definition (Allred, & Smith, 1989). It is worthwhile to briefly discuss some of the hardiness research because it attempts to explain theoretically the stress-moderating effect of an internal LC.

Hardy individuals, through their internal LC, tend to involve themselves (rather than experience alienation) in their encounters. These individuals have a generalized sense of purpose that allows them to identify with and find meaningful, the events, things, and persons in their environment. Through commitment, hardy individuals feel an involvement with others that serves as a generalized resistance resource against the impact of stress. Committed persons do not easily give up under pressure. Their relationship with themselves and their environment involves activeness and approach rather than passivity and avoidance. These individuals believe in the truth, importance, and interest value of what they do and are willing to exercise influence and control to affect outcomes. Committed persons know why they are facing stressful events and how to succeed in the presence of stress. Alienation and beliefs of external control lead people to feel apathetic and powerless during stressful times. Commitment leads to direct coping behaviors (to be discussed later) and the eschewal of avoidance coping behaviors.

Kobassa (1982) feels that a sense of control enhances stress resistance perceptually by increasing the likelihood that events will be experienced as a natural outgrowth of one's

actions, not as foreign, unexpected, and overwhelming. A sense of control aids in coping with stress and leads to actions aimed at transforming events into something consistent with an ongoing life plan. The stressed, but healthy person, is thought to have decisional control over possible courses of action. Control appears to be responsible for the development of a broad repertoire of responses to stress (Kobassa, 1993).

The challenge disposition of hardiness is the belief that change, rather than stability, is normal in life and that anticipation of changes are interesting incentives for growth rather than threats to security. People who feel positively about change are catalysts in their environment and are well practiced at responding to the unexpected because they value a life filled with interesting experiences. Change-seekers have explored their environment and know where to turn for resources to aid them in coping with stress. They have a predisposition to be cognitively flexible. This allows them to integrate and effectively appraise the threat of new situations. Challenge mitigates the stressfulness of events by coloring them as stimulating rather than threatening. This leads to attempts to transform oneself and grow by fostering openness and flexibility. Challenge allows the integration and effective appraisal of even exceedingly incongruent events (Kobassa, Maddi, & Kahn, 1982).

Evidence for the positive stress-moderating effects of hardiness come from a series of retrospective and prospective studies. The results of these studies generally demonstrate that hardy persons report less stress-related somatic symptoms and experience less illness than non-hardy subjects under conditions of high stress (Allred, et al., 1989; Kobassa, 1982; Kobassa, & Puccetti, 1983). The stress-buffering effect of hardiness is believed to result from an adaptive cognitive appraisal process. Hardy individuals, it is believed,

respond to potential stressors with positive cognitions or appraisals concerning both the level of threat present and their ability to cope effectively. Hardy individuals tend to report a higher percentage of their life experiences as positive and under their control. In a study by Rhodewalt and Zone (1989) hardy and nonhardy subjects differed dramatically in both the number of life events they appraised as negative and the average amount of adjustment required for each event with actual number of life changes similar between the two conditions. A lack of hardiness was related to depression and physical illness. The hardiness model assumes that the adaptive cognitions of hardy individuals result in a lower level of organismic strain in response to potential stressors. This is supported by the finding that positive appraisal produces decreases in physiological arousal (Allred & Smith, 1989).

There is disagreement about the effects of hardiness as a stress moderator. Hull, Van Treuren, and Virnelli (1987) feel that there has been too much variability in the way hardiness is measured. Some authors (Allred, & Smith, 1989; Rhodewalt, & Zone, 1989) argue that measures of hardiness actually measure an absence of neuroticism or are confounded with a lack of neuroticism (neuroticism in these studies consists of generalized, chronic, negative emotions such as anger, hostility, distress, anxiety, and depression) because often hardiness is measured negatively through the absence of alienation and negative emotions, powerlessness, need for security, and external control. The relation between hardiness and positive health reports may reflect simply an absence of neuroticism rather than hardiness according to these authors. There is a consistent positive correlation between neuroticism and illness reports (although the magnitude of the correlations was unattainable). Measures of hardiness are negatively correlated with measures of neuroticism (Allred, & Smith, 1989). Significant relations between hardiness and health

reports can be eliminated when emotional maladjustment (neuroticism) is statistically controlled for (Rhodewalt, & Zone, 1989). Confusing the arguments of hardiness and neuroticism is the fact that both are composed of a constellation of components. As with the Type A personality, perhaps it is better to discuss hardiness and neuroticism in terms of their component factors.

Allred and Smith (1989) conducted a study examining the cognitive appraisal and organismic strain aspects of the hardiness model by assessing cognitive and physiological responses of high and low hardiness groups to an experimental task that was either high or low in potential threat. They predicted that high hardy subjects would respond to high threat with a high level of positive thoughts and a low level of negative thoughts. They also predicted high hardy subjects would display relatively lower long-term physiological arousal, but that they may show increased levels of short-term arousal associated with active coping efforts.

To evaluate the potential neuroticism confound, they examined the arousal and cognitive effects with and without controlling for neuroticism as measured with the State-Trait Anxiety Inventory (Spielberger, Gorsuch, & Lushene, 1970). Low hardy subjects reported fewer positive thoughts in the high stress condition than in the low stress condition. In the high stress condition, high hardy subjects endorsed more positive self-statements than low hardy subjects. Although hardy subjects demonstrated the predicted lower level of endorsement of negative self-statements relative to low-hardy subjects, this difference was attributable to the confounding of hardiness and neuroticism. The positive self-statement results could not be attributed to neuroticism and appeared to reflect the predicted cognitive correlates of hardiness in response to stress.

These results suggest that hardiness may moderate the effects of stress by way of cognitive processes. Results of the physiological measures provided little evidence of lowered organismic strain in high hardy subjects. The authors suggest that high hardy subjects attempted to actively cope with the stress, thus increasing arousal. These efforts, they say, were adaptive. The authors also suggest that it may not be the level of arousal to an event, but the recovery time needed to return to baseline that is important to the development of stress-related illness. Overall, the results of this study provide some support for the cognitive appraisal aspect of the hardiness construct, but show the need for conceptual refinements concerning the link between hardiness and health and the operational definition of hardiness.

A further hardiness study by Aspinwall and Taylor (1992) shows the benefits of an internal LC when coping with stress, but also shows the possibility of negative affectivity or neuroticism confounding interpretation of results. Aspinwall and Taylor note that neuroticism tends to be associated with low self-esteem, an absence of optimism, and an external LC (the opposite traits of a hardy individual). It is possible that optimism, high self-esteem, and an internal LC predict psychological well-being primarily because they are associated with an absence of negative affectivity and not because they exert any independent effect on coping strategies. Aspinwall and Taylor found that the beneficial effects of an internal LC on adjustment to college were mediated by the coping strategies used and mood state. Internal LC subjects used less avoidance coping, and more active coping which in turn predicted better adjustment to college and better health. Negative affectivity was a strong predictor of avoidance coping and positive affect was associated with active coping. As with any correlational method, and the lack of experimental control,

causality is difficult to determine so that it seems mood, sense of control, and coping strategies used, are all interrelated.

### Coping Strategies

The process of coping is a stabilizing factor that helps individuals maintain psychosocial adaptation during stressful episodes (Holahan, & Moos, 1987). This process is complex but it is directed toward moderating the impact of life events on individual's physical, social, and emotional functioning (Billings, & Moos, 1981). Coping usually refers to efforts to master conditions of uncertainty that tax or exceed adaptive resources (Latack, 1986). It includes any response that prevents, avoids, or controls personal distress (Violanti, 1992).

Coping with stressful events is viewed as a dynamic process consisting of the environmental stressors (i.e. demands, constraints), a cognitive appraisal process, levels of stress experienced psychophysically/behaviorally, and coping responses, behaviors, or styles (Latack, 1986). The bulk of this discussion will deal with the appraisal process and work done on coping responses, behaviors, or styles.

Folkman and Lazarus (1984, 1985, 1988) developed the cognitive theory of psychological stress and coping. It views the process as transactional in that the person and the environment are in a dynamic, mutually reciprocal, relationship. In order for individuals to experience stress, they first must appraise the situation as threatening or challenging. Cognitive appraisal is the process whereby the person evaluates whether an encounter with the environment is relevant to his or her well-being, and in what way

(Folkman, Lazarus, Gruen, & DeLongis, 1986). The process of appraisal actively negotiates between the demands of the environment and the goals and beliefs of the individual. Appraisal consists of both primary and secondary appraisal.

In primary appraisal, the individual evaluates whether he/she has anything at stake in an encounter with the environment. It is the interpretation of the situation, rather than some objective quality of the situation, that determines its stressfulness to the individual.

Secondary appraisal is the process of thinking of responses to a situation deemed threatening or challenging. It involves judgments regarding available options. Various coping options are evaluated for their worth and chance of success in a particular situation.

Appraisal is affected by both situation and person factors. One of the main points made by Folkman and Lazarus (1984) though, is that one's beliefs about one's mastery over the environment may have significant effects on threat or challenge appraisals. LC is related to beliefs about mastery of the environment and is thought to affect the appraisal process and influence the coping responses made. This will be discussed in more detail later, but generally internal LC individuals are less likely to report being threatened by a stressor and more accepting of stressors deemed unchangeable (Vitaliano, Russo, & Maiuro, 1987). Internal LC individuals tend to have better coping skills than externals (Arsenault, et al., 1991). They tend to use more instrumental strategies and engage in less task-irrelevant self-preoccupation (Solomon, 1988). Aspinwall and Taylor (1992) believe that an internal LC leads people to adopt active coping strategies by contributing to a sense of self-confidence needed to confront problems directly.

Two popular approaches to viewing coping responses are the process and trait approaches. Both will be discussed with arguments for and against. There is no consensus on which approach is appropriate for studying coping responses, so review of both is important.

In the process approach to coping (Folkman, & Lazarus, 1985), coping must be examined within the context of a specific stressful encounter, which is thought to be a dynamic, unfolding process. An individual may use several coping responses to one specific event. Most studies using the process approach ask subjects to recount one specific stressful encounter. Subjects describe coping responses used and if they were successful.

The trait approach to coping (Bolger, 1990; Holahan, & Moos, 1986; Houtman, 1990; Newton, 1989; Newton, & Keenan, 1990; Scheier, Weintraub, & Carver, 1986; Vitaliano, et al., 1987) assumes that coping responses are a property of the person and are influenced by biology, personality, learning, and socialization. In the trait approach, coping responses are referred to as coping styles- any pattern of coping behavior which an individual exhibits over the longer-term, resulting either from the way the individual tends to appraise events, or from semi-habitual behavior (Newton, & Keenan, 1990). These long-term coping styles may exist relatively independently of the environment, and they might also be conditioned through learning the relative efficacy of different coping responses. This definition of coping styles acknowledges that people may have a tendency to cope in a certain way over time. This coping style may result because the person tends to appraise events in a certain way, because they have a tendency to behave in a certain way, or the coping style may be

a product of existence in a certain type of environment (e.g. very high demand environment).

In the trait approach to coping, people do not approach each coping context anew, but bring a preferred set of coping strategies that remains relatively fixed across time and circumstances. Certain personality dispositions in fact, such as internal LC, constructive thinking, self-confidence, learned resourcefulness, self-efficacy, optimism, a desire for mastery, and hardiness all appear related to certain coping styles (Lazarus, 1993) that will be discussed later. These facets of personality affect a variety of factors in the coping situation to include range of coping responses considered, interpretation of the stressful event, and effort expended on coping. Even Folkman and Lazarus (the major proponents of the process approach to coping) admit that there are relatively stable coping styles and that to understand stress, we must consider individual differences in motivational and cognitive variables which intervene between the stressor and the reaction (Lazarus, 1993).

Buntrock and Reddy (1992) provide further argument for studying coping styles. Even though appraisal can change throughout a stressful encounter as a result of the bidirectional influence of the person and the environment, and the environment/situation is important to consider in understanding the coping process, focusing on change does not preclude investigating the influence of personality traits on the coping process. They argue that looking at only one specific stressful encounter makes it difficult to determine whether or not a coping strategy is effective. A single coping strategy may be effective in only some domains.

Newton (1989) also argues that one fault of some of the research on the process approach to coping is the assumption that some coping techniques may be universally effective. Newton argues that we need to consider the possibility that any single coping strategy is only likely to be effective with certain groups of individuals in particular types of environments.

Another problem with the process approach to studying one stressful event, is that that event may be unrelated to ongoing, chronic stressors that contribute to physical health (Newton, & Keenen, 1990). Strain and stress-related illness, it is thought, build up over time rather than being the response to a single stressful incident. Studying a single incident requires the assumption that the incident is highly representative of the subject's recurrent life experiences. This may or may not be (Ptaceck, Smith, & Zamas, 1992). Possibly the best approach to studying the coping process is with longitudinal studies. However for this thesis, it is not possible.

Buntrock and Reddy (1992) investigated the personality disposition of defensiveness (the tendency to deny problems, while trying to maintain a semblance of adequacy, effectiveness, and control) and its contribution to the stress appraisal process. To study situational and dispositional variables simultaneously, they used a repeated measures design and looked at self-reported stress level before and after a manipulated threat.

It was hypothesized that the impact of defensiveness on threat appraisals would vary with situational demands. Differences between defensive and nondefensive subjects on the indices of stress were expected to change with changes in the threat. During the period before the threat, defensive subjects were expected to report less symptomatic distress than

nondefensive subjects. Differences between defensive and nondefensive subjects were not expected after the threat since coping efforts by defensive subjects would no longer be necessary.

Conversely, nondefensive subjects were expected to report less distress after the threat compared to before the threat accurately reflecting their arousal at both points in time. Results supported the hypotheses. There was an interaction between defensiveness and the time period demonstrating that personality (defensiveness) affected the appraisal process differentially across the two time periods. Defensive subjects were not uniformly more reactive than non-defensive subjects, only after the threat. These results emphasize the importance of the interaction between disposition, and the situation in understanding the coping process. A coping disposition can have a powerful and dynamic influence on the coping process.

Pearlin and Schooler (1978) feel that in certain contexts, personality characteristics are important factors affecting coping. In areas like work, finances, and health, where perceptions of control may be less, personality variables may be most influential in determining the coping response used. In areas such as interpersonal relations, it might be more important to consider specific things people do in specific contexts. Pearlin and Schooler evaluated the extent people were stable in their primary and secondary appraisal and coping responses across diverse stressful encounters over a six month period. They found that coping responses were significantly stable over time but that most stressful events require use of several coping strategies.

Coping strategies refer to cognitive and behavioral efforts to manage the demands of a stressor (Baum, 1993). There are many ways of classifying coping strategies, but most approaches distinguish between strategies that are active in nature and oriented toward confronting the problem, and strategies that entail an effort to reduce tension by avoiding dealing with the problem.

Folkman and Lazarus (1988) proposed that coping strategies are either problem-focused (often called active coping) or emotion-focused. Although the latter can be active in nature, it is often oriented towards avoiding dealing with the source of stress. Problem-focused coping is an action that has the goal of removing or circumventing the source of stress by dealing directly with the problem and its effects. Problem-focused coping tends to be used in situations where people believe that something constructive can be done about the stressor. Emotion-focused coping (often called passive coping) includes behavioral or cognitive responses whose primary function is to manage the emotional consequences of stressors and to help maintain one's emotional equilibrium. Avoidance coping refers to attempts to avoid actively confronting the problem or to indirectly reduce emotional tension by such behaviors as eating or smoking more. Avoidance coping is a form of emotion-focused coping and is more likely when people believe that the situation must be endured (Scheier, et al., 1986).

Although it is not possible to identify consistently positive or negative types of coping, two broad generalities receive much empirical support. Active, problem-focused coping strategies tend to moderate the adverse influence of stress, while avoidance strategies tend to be related to psychological distress (Baum, 1993; Billings, & Moos, 1981; Cronkite, &

Moos, 1984; Holahan, & Moos, 1985, 1986, 1987, 1990; Vitaliano, Mairuro, Russo, & Becker, 1987).

Holahan and Moos (1990) found using discriminant analysis that use of approach or avoidance coping significantly predicted subject's level of functioning under stress. The relationship between more approach coping and stable psychological functioning was independent of the number of negative life events a subject experienced.

Carver, Scheier, and Weintraub (1989) found a significant positive correlation between active coping and the feeling of an internal LC and positive self-esteem. Active coping was negatively correlated with perceived stress. These results suggest both the beneficial aspects of active coping, but as mentioned earlier, the possibility that certain personality variables like LC predispose individuals to prefer certain coping styles.

Cronkite and Moos (1984) found that subjects who relied on avoidance coping responses were more likely to be depressed, function poorly, experience more marital distress, and consume more alcohol. Latack (1986) classifying coping responses as either control responses (actions and cognitive reappraisals that are proactive and take-charge in tone) or escape responses (actions and cognitions that suggest an escapist, avoidance tone), found that subjects adopting a control strategy were less likely to report job-related stress.

In a study of stress among police recruits, Violanti (1992) examined which coping strategies (problem or emotion-focused) reduced stress the most. Planful problem solving was the most effective at reducing stress. Accepting responsibility, positive reappraisal, self-control, and escape-avoidance (all forms of emotion-focused coping) all increased

distress. Violanti argues that while possessing a greater number of coping strategies is beneficial, the most important issue is the order of their use. Subjects who used the fewest coping methods had the least stress suggesting these individuals had found through previous experience and present reappraisal the particular coping method most effective for them. Prior learning, life experiences, and personality together play a part in the selection and number of coping responses used in response to a stressor.

Based on the finding that depressed subjects tend to use less problem solving and more emotional discharge, wishful thinking, and avoidance, Rhode, Lewinsohn, Tilson, and Seeley (1990) found that ineffective escapism (consisting of avoidance, helplessness, and passive coping behaviors) was most strongly related to current and future dysphoria.

Bolger (1990) conducted a longitudinal study investigating the interrelationships between neuroticism, coping and stress outcomes. Bolger found that ineffective coping responses, like wishful thinking and self-blame, mediated over half the effect of neuroticism on anxiety. This suggests that neuroticism leads people to cope ineffectively and this coping, in turn, leads to increases in distress. Aldwin and Revenson (1987) also found evidence of a mutually reinforcing causal cycle between poor mental health and maladaptive coping strategies.

In a very novel study of coping strategies, Strentz and Auerbach (1988) studied airline pilots and flight attendants. They were taken through a simulated abduction and placed in captivity. Prior to abduction, subjects were randomly assigned to either problem or emotion-focused stress management procedures or a control condition. Subjects tended to

deal with the stress of captivity in a manner consistent with the type of stress-coping preparation they had been given. Subjects given emotion-focused strategies reported the lowest stress. This is consistent with other findings that denial/emotion processes are apt to be particularly useful when dealing with highly threatening, low control situations of short duration. These authors acknowledge though that few stressors can be effectively dealt with on a sustained basis through emotion-focused strategies only, without relying on appropriate problem solving behaviors.

In a study of Israeli adolescents' response to the threat of Scud Missile attacks, Baum (1993) found that subjects' perceived health correlated positively with perceived control and subjects who viewed their health positively reported use of less emotion-focused coping. Planning, seeking social support, distancing, and ventilation were positively correlated with less anxiety and physical stress symptoms. Baum contends that avoidance coping such as denial may be adaptive in the short-run because it gives one a respite from the stressor and protects one from having to deal with the aversive implications of the stressful situation. Denial though, tends to be maladaptive by causing people to delay dealing with the legitimate problem or cause of stress.

It is not clear if there are gender differences in preferred coping styles. The only consensus seems to be that women generally seek more social support than men (Houtman, 1990). This may be due to widely held sex-role stereotypes and gender role expectations. Men are socialized to a greater extent to deal instrumentally with stress whereas women tend to be socialized to express emotion, employ emotion-focused coping methods, and to seek the support of others (Ptaceck, et al., 1992). Another explanation for possible gender differences in coping styles may be attributable to differences in the kinds of stressful

situations that men and women typically encounter. Ptaceck, et al. (1992) found that both men and women used problem-focused coping with greater relative frequency than any other category of coping, but men reported more of their total coping effort to problem-focused methods. Men were also more likely to use this method first. Women reported using more coping categories per event than men and used more social support than men. These authors believe that people may have a coping response hierarchy that constitutes predispositions to respond to classes of stressors in a particular way. They suggest using problem-focused coping early in the coping sequence may lead to a quicker resolution of the problem. It also may be that when problem-focused coping is used is more important than if it is used.

There is also debate about age differences and coping styles. As people age, they tend to be more external in their LC (Aldwin, 1991). Age may have an indirect effect on coping strategies through an increase in health problems. Health problems are more likely to evoke emotion-focused coping (Aldwin, 1991). The difference in coping strategies among people of different ages is in part due to the differences in the types of problems young and old face. Generally, older individuals are not passive copers, despite possible external LC tendencies. This suggests that experience may show the ineffectiveness of emotion-focused techniques.

Having discussed the role of locus of control and coping strategies as stress-moderators, achievement motivation must be discussed briefly before outlining the purpose of this thesis.

### Achievement Motivation

Achievement motivation is defined as affect in connection with evaluated performance in which competition with a standard of excellence is paramount (Ahmed, & Heapy, 1976). Individuals with high achievement motivation strive to increase, or keep as high as possible, their capabilities in all activities. An extensive literature has explored the validity and utility of the concept of achievement motivation. The need for achievement has received the most emphasis and the result is a formal theory of achievement (Mehrabian, 1968, 1969, 1993). The purpose here is not to delve too deeply into the achievement theory, but to describe some tendencies of achievement-oriented individuals. It is these tendencies that are closest to the global definition of the Type A behavior pattern. Generally, Type A behavior is similar to need for achievement in that both types of individuals are likely to prefer challenging tasks and be competitive, with a strong desire to master tasks. Achievement-oriented individuals tend to: desire and pursue success; attribute success or failure to themselves, rather than to others; desire feedback on their performance; perform better than low achievers both in intensity and efficiency; persevere despite failure; delay gratification; have realistic levels of aspiration; have a future orientation; seek challenges; be more independent in their interpersonal relationships; prefer activities involving skill or competition; desire mastery of tasks and situations; value social comparison; have anticipated gratification of success and distress of failure (Mehrabian, 1993). As it relates to the Type A personality construct, high achievers may be subjected to more stress in their lives as they pursue their quest for success, and attempt to deal with their fear of failure.

### Thesis

Based on the previous discussion of achievement motivation, and the stress-moderating role of LC and coping styles, the purpose of this nonexperimental (correlational) study was to examine the relationship between LC, coping styles, and achievement motivation on stress-related somatic, behavioral, cognitive and emotional symptoms in individuals. Using a multiple regression, factorial design with two continuous independent variables (LC and achievement motive), one categorical independent variable (coping style), and a dependent variable (self-reported, somatic, behavioral, cognitive, and emotional symptoms of stress), the overall significance of the multiple correlation was examined. It was hypothesized that this relationship would be significant ( $H_0: R_{\text{stress, lc, cs, ach}} = 0$ ,  $H_A: R_{\text{stress, lc, cs, ach}} \neq 0$ ). The interaction of the three variables (interaction is used here to denote the effects of all three variables considered together in terms of how they affect stress; there may be intercorrelations among these three variables, so according to Pedhazur (1982) the term interaction should not be used in nonexperimental designs, rather the term joint effects is more appropriate) was also examined and predicted to be significant.

If the interaction or joint effects were significant, this would indicate that one's achievement motive can not be considered independently in terms of its effect on stress. Rather, stress reactions would depend on achievement motive, one's locus of control orientation, and one's preferred style of coping all considered simultaneously. The results

of this study were intended to further support the dissociation of the Type A personality construct and emphasize the importance of stress-moderators, especially in achievement-oriented individuals.

## CHAPTER II

### METHOD

#### Subjects

One hundred subjects were obtained from introductory Psychology courses as a requirement for their course credit. Subjects were evaluated in groups no larger than eight. Thirteen experimental sessions were held. All subjects reported to a predesignated classroom. They were briefed on the purpose of the study- to gain information on how people deal with problems and stressors in their lives- and asked to sign an informed consent form (Appendix A, p. 56). Subjects completed a series of four scales individually after instructions were read aloud for each scale. The order of scale completion was varied among groups in an attempt to offset any effects of subject fatigue or loss of motivation while completing the scales. Each scale required approximately fifteen minutes to complete. All subjects were done within one hour. Subjects remained anonymous, although gender data was collected for demographics. Once a subject completed all four scales, the scales were placed in a subject folder. Each scale was examined by the researcher for completeness and errors. Subjects received a debriefing statement (Appendix B, p. 57) and were told that if they were interested in the results of the study they could contact the researcher. Subjects were then released from the study.

### Measuring Scales

The Health and Daily Living Form (HDL, Appendix C, p. 58) (Moos, Cronkite, Billings, & Finney, 1990) measures the dependent variable stress as the number of self-reported somatic, behavioral, cognitive, and emotional symptoms of stress experienced fairly often over the past twelve months. Physical symptoms include: felt weak all over; suddenly felt hot all over; heart beating hard/pounding; poor appetite or overeating; nervousness (fidgety, tense); restlessness (could not sit still); acid stomach/indigestion/stomach ache; cold sweats; hands trembling; headaches; constipation; insomnia (trouble falling asleep or staying asleep). Behavioral, emotional, and cognitive symptoms include: feeling depressed (sad or blue); weight gain or weight loss; sleeping too much; loss of energy/fatigue/tiredness; loss of interest in usual activities; feeling guilty, worthless, or down on yourself; trouble concentrating, thinking, or making decisions; crying; feeling negative or pessimistic; brooding about unpleasant things; feeling inadequate; feeling resentful, irritable, angry; needing reassurance or help; feeling sorry for yourself. Several additional symptoms will be added that were contained in other stress studies to increase the construct validity of this scale: dryness of mouth; difficulty breathing; back or neck aches; vomiting; diarrhea; drink or smoke in response to stress (Cole, & Sapp, 1988; Numeroff, 1983; Pilisuk, & Montgomery, 1993).

An impressive body of evidence demonstrates the link between somatic, behavioral, cognitive, and emotional self-report symptoms of stress and physiological measurement of stress (Holahan, & Moos, 1985, 1986, 1987, 1990; Pilisuk, & Montgomery, 1993). Correlations between these self-report symptoms and physiological measures of stress usually range between .65 and .85 (Baum, 1993; Holahan, & Moos, 1985). In addition,

self-report symptoms ratings are significantly related to physicians' ratings (Pilisuk, & Montgomery, 1993) although exact correlation coefficients could not be located. This shows the concurrent and predictive validity of the HDL. Many stress studies have used somatic, behavioral, and cognitive symptoms as a method of measuring stress (Baum, 1993; Cronkite, & Moos, 1984; Friedman, & Martin, 1963; Holahan, & Moos, 1985, 1986, 1987, 1990; Larue, Blank, & Jarvic, 1979; Martini, & McDowell, 1976; Numeroff, 1983; Pilisuk, & Montgomery, 1993; Rhodewalt, et al., 1991). Many of these studies specifically used the HDL providing indirect support for its face validity. Using undergraduates to measure stress is a valid technique- especially with freshmen since they are considered a stressed population (Hamilton, & Fagot, 1988).

The HDL shows reasonably good construct validity in that its indices are related to similar measures in expected ways (Moos, et al., 1990). No formal critique of this scale with normative data could be found. After adding additional symptoms to the HDL, there were a total of thirty-two symptoms on the dependent variable scale so scores could potentially range from zero (low stress) to thirty-two (high stress).

The Ways of Coping Checklist (WCC, Appendix E, p. 64) (Folkman, Lazarus, 1988) is a self-report measure of a broad range of different coping strategies. It can be used to measure coping responses to a specific stressful event, or as was used here in this study, as a measure of general coping tendencies or styles (Aldwin, 1991; Folkman, & Lazarus, 1988; Vitaliano, et al., 1987). The checklist contains eight different subscales of coping styles that were determined after three factor analyses (Folkman, & Lazarus, 1988). Subscales of coping styles include: confrontive, distancing, self-controlling, seeking social support, accepting responsibility, escape/avoidance, planful problem solving, and positive

reappraisal. There are several questions for each subscale and instructions ask subjects how they typically deal with stressful events. Subjects respond to each question on a zero to three point Likert scale. Confrontive coping describes aggressive efforts to alter the situation and suggests some degree of hostility and risk taking. Sample questions include: stood my ground and fought for what I wanted; expressed anger to the person (s) who caused the problem. Distancing describes cognitive efforts to detach oneself from the situation and to minimize the significance of the situation. Sample questions include: made light of the situation; refused to get too serious about it; went on as if nothing happened. Self-controlling describes efforts to regulate one's feelings and actions. Sample questions include: I tried to keep my feelings to myself; kept others from knowing how bad things were. Seeking social support describes efforts to seek informational support, tangible support, and emotional support. Sample questions include: talked to someone to find out more about the situation; I asked a relative or friend I respected for advice. Accepting responsibility acknowledges one's own role in the problem with a concomitant theme of trying to put things right. Sample questions include: criticized or lectured myself; realized I brought the problem on myself. Escape-Avoidance describes wishful thinking and behavioral efforts to escape or avoid dealing with the problem. Items on this scale differ from those on the distancing scale which suggests detachment. Sample questions include: wished that the situation would go away or somehow be over with; hoped a miracle would happen.

Planful problem solving describes deliberate, problem-focused efforts to alter the situation, coupled with an analytic approach to solving the problem. Sample questions include: I knew what had to be done, so I doubled my efforts to make things work; I made a plan of action and followed it. Positive reappraisal describes efforts to create positive

meaning by focusing on personal growth. It also has a religious dimension. Sample questions include: changed or grew as a person in a good way; I came out of the experience better than when I went in.

This scale was scored to yield a relative score for each subscale that shows for an individual that coping strategy used most often. This method of scoring the WCC is advocated by Folkman and Lazarus (1988), Vitaliano, et al. (1987), and Carver, Scheier, and Weintraub (1989). The advantage of using relative scores as opposed to raw scores is that raw scores do not take into account individual differences in overall coping efforts (i.e. total efforts across all scales). Relative scores allow differentiation of individuals with identical raw scores by taking account of each raw score's magnitude relative to the individual's total coping efforts. Vitaliano, et al. (1987) argue that relative scores are the best way to study dispositional coping styles.

Based on each subject's largest relative score (indicating the coping style used most often) they were categorized (using dummy coding in the multiple regression analysis) as a problem-focused (active) coper, or an emotion-focused (passive) coper using Folkman and Lazarus's classification. Problem focused coping includes confrontive coping, seeking social support, and planful problem solving. Emotion-focused coping includes distancing, self-controlling, accepting responsibility, escape-avoidance, and positive reappraisal.

The Ways of Coping Checklist is one of the most widely used coping measures (Lazarus, 1993; Newton, 1989). It has been used in the majority of studies cited here (Aldwin, & Revenson, 1987; Bolger, 1990; Carver, et al., 1989; Folkman, et al., 1986; McCrae, & Costa, 1986; Newton, 1989; Ptaceck, et al., 1992; Strentz, & Auerbach, 1988;

Violanti, 1992; Vitaliano, et al., 1987). The WCC shows face and construct validity (Folkman, & Lazarus, 1988). Tennen and Herzberger (1984) report the results of nine factor analytic studies that support the validity of this scale. Despite variations in samples, and differences in the context for generating coping responses, considerable overlap in factor structure has been shown. The findings of studies using the WCC are generally consistent with theory providing further support for its construct validity (Tennen, & Herzberger, 1984). Traditional test-retest estimates of reliability for this scale are not appropriate because this scale can be used to measure the coping process for different stressful encounters, which are variable. Reliability can be examined using the internal consistency of the coping measures using Cronbach's Coefficient Alpha. The alpha coefficients for the eight scales are higher than most other measures of coping ranging from .61 for the distancing scale to .79 for the positive reappraisal scale (Folkman, & Lazarus, 1988). Tennen and Herzberger (1984) provide a more thorough review of the reliability and validity of the WCC.

Locus of control was measured using the twenty-nine question Internal/ External Control Scale (Rotter, 1966, Appendix D, p. 60). Scores are based on the number of external responses made with one point given for each external response. Thus, a low score reflects an internal orientation and a high score reflects an external orientation. An example of an externally-worded question is: Many of the unhappy things in people's lives are partly due to bad luck. An internally-worded question is: People's misfortunes result from the mistakes they make. Scores range from zero (most internal) to twenty-three (most external). This scale has been used for over fifty percent of all the locus of control studies ever done showing its convergent and face validity (Robinson, Shaver, & Wrightman, 1991) as well as most of the studies cited here (Baum, 1993; Heilbrum, 1989;

Kobassa, 1983, 1993; Kobassa, Maddi, & Kahn, 1982; Kobassa, & Puccetti, 1983; Lefcourt, 1984; Newton, & Keenan, 1990; Nowicki, & Duke, 1974; Pilisuk, & Montgomery, 1993; Solomon, 1988). This scale is still widely accepted and used even with the advent of more recent locus of control scales (Robinson, et al., 1991).

Considerable research (Lefcourt, 1982) has shown it is a reliable and valid index of belief in whether one is controlled by external forces supporting its construct validity (Robinson, et al., 1991). This scale has an internal consistency of .70, and test-retest reliability of .72 (Robinson, et al., 1991). The only criticism I could find regarding this scale is its relationship with social desirability (Nowicki, & Duke, 1974) thus detracting from its discriminate validity, and that it might have a reading level suitable for college-educated adults only. My sample fits this latter limitation.

Achievement motivation was measured with the Mehrabian Achieving Tendency Scale (Mehrabian, 1993, Appendix F, p. 67). This is a thirty-six item, self-report scale that measures achieving tendency with greater reliability than most obtained with fantasy-based measures. The scale is balanced for response bias with half the questions worded for agreement and half worded for disagreement. Example questions include: I have difficulty working in a new and unfamiliar situation; I do not usually tackle problems that others have found to be difficult. Answers are chosen on a -4 to +4 Likert scale. Scores range from -35 (very extremely low in achievement tendency) to 135 (very extremely high in achievement tendency). This scale has an internal consistency reliability of .92 (Mehrabian, 1993). It correlates significantly with other acceptable achievement scales (providing evidence of its convergent validity) like the Jackson Achievement scale (correlation of .67) (Mehrabian, 1969). This scale is constructed to be relatively

independent of affiliative tendency and social desirability providing discriminant validity and it differentiates students based on a choice between a rigorous course of study and an average course of study. Three studies (Mehrabian, 1968, 1969, 1993) show its construct validity.

### Statistical Analysis

This study included two continuous independent variables (achievement motivation and LC), one categorical independent variable (coping style), and the dependent variable stress (number of self-reported somatic, behavioral, cognitive, and emotional symptoms of stress). Using the multiple regression technique for continuous and categorical independent variables (Pedhazur, 1982), a series of vectors were used to represent the variables. The variables stress, achievement, and LC were each represented by one vector. Coping style also required one vector, but using dummy coding, subjects were coded as a one (active copier), or zero (passive copier). Four vectors were needed to represent the possible joint effects (CSxACH, CSxLC, ACHxLC, CSxACHxLC). The overall regression coefficient ( $R_{\text{stress, lc, cs, ach}}$ ) was calculated as well as the coefficient of multiple determination ( $R^2$ ). This coefficient represents the proportion of shared variability between stress scores, LC orientation, coping style predominantly used, and achievement motivation. To determine if  $R^2$  was significant, the overall  $F$  ratio was calculated, followed by the  $F$  ratio for the vector representing the three-way joint effects. Two-way joint effects were also tested in this fashion, as well as main effects.

If the joint effects were significant, interpretation would require that the three independent variables be considered together when discussing stress. If the joint effects

were significant, it would lend support to the notion that high achieving individuals may not experience high levels of somatic, behavioral, cognitive, or emotional symptoms of stress if they are active copers, with an internal LC orientation. It was not necessary to determine the nature of the joint effects (ordinal or disordinal) using calculations for the point of intersection and region of interest because I was concerned with the entire range of achievement and LC scores. This range became my research range of interest (Pedhazur, 1982). If my sample yielded a restricted range of scores on achievement, or LC, calculations of the point of intersection and region of interest would have been necessary.

The three-way joint effects were of primary concern in terms of significance, followed by main effects. Two-way joint effects had the potential to be of interest, as well as possible gender differences in coping style preferred. Both of these were analyzed.

### CHAPTER III

### RESULTS

Table 1 (p. 42) shows the mean, standard deviation, maximum, minimum, and range of locus of control, achievement, and stress scores. For this sample, the mean locus of control score of 12.08 compares reasonably well with normative data from Robinson et al. (1991) who report a mean score of 11.3 in a sample of 260 college students. Since the highest external score possible is 23, on average, this sample possesses an average level of locus of control orientation. This sample shows below average achievement motivation scores (37.95) when compared to Mehrabian's (1993) normative data (mean= 50).

Table 2 (p. 43) shows the frequency of preferred coping style for males and females. Overall, passive coping was preferred for both sexes combined (55 out of 100 subjects preferred passive coping). Females preferred passive coping (58% of females), while males were essentially equally divided between the two styles. Since no specific hypotheses were offered in terms of gender effects and preferred coping styles, this information is presented merely as a descriptive statistic.

Table 3 (p. 44) shows the zero-order Pearson Product Moment correlations between locus of control, achievement motivation, coping style, and stress symptom scores. This analysis was done to see if trends in this sample reflect trends cited in the literature. Also of interest was the correlation between achievement orientation and stress scores ( $r = -.131$ ). It was hypothesized that high achieving individuals might not report more stress symptom scores if they displayed an internal locus of control orientation and actively

confronted stressful situations. Locus of Control was negatively correlated with achievement motivation ( $r = -.3486$ ,  $p < .01$ ) and positively correlated with stress symptom scores ( $r = .167$ ,  $p < .01$ ). Achievement motivation was positively correlated with preferred coping style ( $r = .2672$ ,  $p < .01$ ). All other zero-order correlations did not reach significance.

Using the multiple regression procedure outlined by Pedhazur (1982) for continuous and categorical independent variables, the multiple correlation, coefficient of multiple determination, and contribution of each main effect and joint effect to the total variance of stress scores was calculated using forced entry of all variables meeting tolerance criteria. It was predicted that the overall multiple correlation would be significant but more importantly, that the joint effects of locus of control orientation, achievement motivation, and preferred coping style would be significantly related to stress symptom scores. Including the vectors representing joint effects between independent variables, there were seven vectors entered into the multiple correlation. The order of entry of vectors was the three-way joint effects (LCxCSxACH), LC, the joint effect of locus of control orientation and achievement motivation (LCxACH), coping style (CS), the joint effects of locus of control orientation and preferred coping style (LCxCS), ACH, and the joint effects of achievement orientation and preferred coping style (ACHxCS). Table 4 (p. 45) shows the raw regression weight ( $B$ ), standardized beta ( $\beta$ ) coefficient, and  $F$  ratios for each vector, as well as the multiple correlation ( $R$ ) and the coefficient of multiple determination ( $R^2$ ). No individual vectors or the multiple correlation,  $R = .26657$ ,  $F(7, 92) = 1.00536$ , reached significance.

A final post hoc analysis was done to examine gender differences in stress scores, achievement motive, and locus of control orientation. Table 5 (p. 46) shows the  $t$  value,

degrees of freedom, and two-tailed probability for these comparisons. The only significant difference between males and females was in terms of locus of control orientation,  $t = -2.01$  (75df),  $p < .05$ . Men possessed a slightly more internal locus of control orientation than women.

## CHAPTER IV

### DISCUSSION

The overall relationship between achievement motivation, locus of control, and preferred coping style and subjects' stress symptom scores was not significant. These variables only contributed 7% of the total variance in subjects' stress symptom scores. Ninety-three percent of the variance was not accounted for. The overall  $F$  ratio was essentially one ( $F=1.00536$ ) indicating a lack of relationship between the independent variables and the dependent variable. This finding illustrates the complexities of understanding the human stress response. Factors of heredity, temperament, physical fitness, level of optimism, physiological reactivity, perceptions and interpretations of events, skills, and social support (to name just a few) influence how an individual will respond to a stressful event. Many of the significant findings reported in the literature using the same independent variables are in reality barely significant and they contribute only small amounts to subjects' reported stress symptoms. For example, Arsenault, Dolan, and Ameringen (1991) found that locus of control orientation contributed only 27% of the variance in subjects' stress symptom scores. Similarly, Pilisuk and Montgomery (1993) obtained a correlation of .28 between an external locus of control orientation and stress symptoms.

Several improvements to this study might provide more insightful results. Although most studies cited in the literature review used a symptom checklist to measure stress, more sensitive measures of physiology, as well as subjective measures of significant life changes,

stressful events, and perceived level of stress might better represent an individual's stress level. Many of the symptoms included on the dependent measure are not found exclusively in individuals under stress. Symptoms such as rapid heart beat, nervousness, and insomnia can be the result of anxiety and depression as well as stress. Thus, measuring stress is extremely difficult because although we have objective measures of the physiological components of the stress reaction, ultimately the experience of stress is subjective and depends on many of the factors previously mentioned. It is hard to quantify such an elusive construct.

As stated previously, perhaps it is not possible to accurately assess one's preferred coping style using the Ways of Coping Checklist without conducting repeated measures over several stressful events. Just as there are myriad stressors, there are many coping strategies. What is successful in one situation may not be successful in another and what works for one individual may not be effective for another individual under similar circumstances. Perhaps after examining how an individual copes with several specific stressful events we could see if a preferred style of coping developed.

The zero-order correlations found here are consistent with previous research on these variables. Although not significant, the direction of the relation between preferred coping style and subjects' stress scores indicated that active copers reported less stress symptoms than passive copers ( $r = -.092$ ) as Baum (1993), Vitaliano, et al., (1987), and others have found. Similarly, an external locus of control orientation was significantly associated with higher reported stress symptom levels ( $r = .17$ ,  $p < .01$ ). This makes sense. Individuals who feel that they are not in control will be likely to react to events rather than plan for and confront stressors. An external locus of control was also related to lower achievement

motivation ( $r = -.35$ ,  $p < .01$ ). This relationship was reported by Mehrabian (1993). High achieving individuals pursue success and attribute their success to their efforts. They feel in control of events. Lastly, high achieving subjects preferred using active coping styles ( $r = .27$ ,  $p < .01$ ). Again, this finding supports that of others (e.g. Carver, et al., 1989). To succeed (i.e. attain goals, or reach a high level of achievement), it seems one must actively confront problems and challenges.

Two gender effects appear in this study. Males were evenly split on the use of active versus passive coping style, while females preferred a passive style ( $n=39$ ) over an active style ( $n=28$ ). Males and females also differed in their locus of control orientation. Although the difference was less than one-third of a standard deviation, males were slightly but significantly more internally oriented. The effects of gender differences on locus of control orientation, achievement motivation, and preferred coping style has not been established and more research is needed to see if there are differences.

A comment is in order regarding the interpretation of results of the zero-order correlations and the gender differences. Although several relationships were significant (external LC was positively correlated with stress symptom scores and negatively correlated with achievement motivation; achievement motivation was positively correlated with use of active coping styles), they were extremely small. Perhaps significance was reached simply due to the fairly large sample size. These significant relationships are really not useful for generalizations to the overall population.

In summary, the relationship between achievement motivation, locus of control orientation, and preferred coping style and subjects' symptoms of stress was not

established. There is support for this relationship (specifically the role of stress moderators in reducing the likelihood of stress-related symptoms) cited previously but it is highly complex and tenuous. The findings of this study were intended to refute the usefulness of the Type A Personality construct in predicting stress-related illness. This construct is composed of several component behavioral traits (competitiveness, impatience, hostility, a sense of time urgency, and a desire to achieve high levels of performance in all domains). It seems intuitively obvious that aspects of the construct like competitiveness, impatience, and hostility would more likely lead to symptoms of stress than the desire of Type A individuals to attain high levels of achievement. A more precise understanding of the etiology of stress-related illness might be attained by focusing on specific components of the Type A construct, rather than considering such a global construct. This is a controversial psychological construct that will likely remain and be the focus of much future research.

Table 1

Descriptive Statistics for LC, ACH, & Stress Scores

<u>Variable</u>	<u>Mean</u>	<u>SD</u>	<u>Max</u>	<u>Min</u>	<u>Range</u>
LC	12.08	3.95	22	1	21
ACH	37.95	38.96	120	-40	160
Stress	19.4	7.24	32	1	31

Table 2

Coping Style Preferences for Females and Males

<u>Gender</u>	<u>Passive Coping</u>	<u>Active Coping</u>
Females	39	28
Males	16	17
Total	55	45

Note. Numbers reflect number of subjects.

Table 3

Correlations Among LC, ACH, CS, & Stress

<u>Variable</u>	<u>LC</u>	<u>ACH</u>	<u>CS</u>	<u>Stress</u>
LC	1	* -.349	-.146	* .167
ACH	* -.349	1	*.267	-.131
CS	-.146	*.267	1	-.092
Stress	* .167	-.13	-.092	1

Note. \* denotes significance at  $p < .01$ .

Table 4

Summary For Regression Analysis

<u>Vectors</u>	<u>B</u>	<u>Beta</u>	<u>F</u>
V4	-.008839	-.449254	1.005
LC	.355047	.193525	1.628
V1	-.002497	-.158807	.205
CS	-5.664470	-.391243	2.083
V2	.412701	.359317	1.524
ACH	.006551	.035254	.008
V3	.107319	.521766	1.301

Note.  $R = .26657$ ,  $R^2 = .07106$ . V1=LCxACH, V2=LCxCS, V3=ACHxCS, V4=LCxACHxCS.

Table 5

t Tests Comparing Men and Women on Stress Scores, Achievement, and LC

<u>Variable</u>	<u>t value</u>	<u>Degrees of Freedom</u>	<u>p</u>
Stress	-1.81	79.53	.074
Achievement	.03	73.02	.974
Locus of Control	* -2.01	75.35	.048

Note. \* denotes significance,  $p < .05$ .

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## Appendix A

Informed Consent Form

I have received full disclosure regarding the purpose and content of this study- the examination of the relationship between personality, coping styles, and stress. I am aware of all procedures which will be involved in this study and I freely consent to participate as a subject. I understand that I will be completing four scales that evaluate my stress levels, achievement tendency, perception of control in my life, and the strategies I use to cope with stressful situations. I have been told that I may withdraw from this study at any time without consequences and that my name will not be used on any of the scales. All of my questions and concerns have been addressed. I have been given the telephone number and name of the researcher in case I ever have any questions. I have been told that I may receive results of this study by contacting the researcher.

Signature

-----

Take this portion home with you. You can contact the researcher at any time with questions, or to obtain results of the study.

Doug Mulbury, 232-6765. Thesis Advisor: DR A.R. Brayer

## Appendix B

### Debriefing Statement

This study examined your achievement motivation (desire to excel, master tasks, and be successful), perception of control in your life (i.e. the control of the positive and negative outcomes in your life- do you feel in control of events or feel controlled by external forces), the coping style you tend to use when faced with a stressful event (active or passive), and the number of stress-related symptoms you are experiencing.

Achievement motivation is believed by some psychologists to contribute to stress-related illness because often high achieving individuals push themselves to do better and better and are often impatient and obsessed with time. If a person feels in control of his/her life, that individual is less likely to experience stress, or better deal with the stress. A sense of control fosters confidence and the belief that events and outcomes are somewhat predictable. The manner in which a person copes with stressful events influences whether he/she will experience negative symptoms of stress like excessive worry, depression, nausea, or panic. People who actively confront the stressors in their lives tend to experience less stress. People who avoid dealing with problems or who blame others for their problems tend to experience more stress.

Scores on each of your scales can be used to see how the three factors in combination affect your symptoms related to stress in your life. Hopefully, the results of this study will show that these three factors together significantly affect your stress level. Also, hopefully high-achieving individuals are not necessarily likely to show symptoms of stress if they believe they control their outcomes, and cope actively to deal with stress.

## Appendix C

Revised Health and Daily Living Form

Instructions: Please respond to the following questions by circling a Yes or No response.

Have you experienced any of these symptoms or behaviors over the past twelve months:

- |  |        |
|--|--------|
| 1) Felt weak all over                              | Y or N |
| 2) Suddenly felt hot all over                      | Y or N |
| 3) Heart beating hard/pounding                     | Y or N |
| 4) Poor appetite or overeating                     | Y or N |
| 5) Nervousness (fidgety or tense)                  | Y or N |
| 6) Restlessness ( could not sit still )            | Y or N |
| 7) Acid stomach, indigestion or stomach ache       | Y or N |
| 8) Cold sweats                                     | Y or N |
| 9) Hands trembling                                 | Y or N |
| 10) Headaches                                      | Y or N |
| 11) Constipation                                   | Y or N |
| 12) Insomnia ( trouble falling or staying asleep ) | Y or N |
| 13) Dryness of mouth                               | Y or N |
| 14) Difficulty breathing                           | Y or N |
| 15) Back or neck aches                             | Y or N |

- |  |        |
|--|--------|
| 16) Vomiting   | Y or N |
| 17) Diarrhea   | Y or N |
| 18) Drink or smoke in response to stress                 | Y or N |
| 19) Feeling depressed ( sad or blue )                    | Y or N |
| 20) Weight gain or loss                                  | Y or N |
| 21) Sleeping too much                                    | Y or N |
| 22) Loss of energy, fatigue or tiredness                 | Y or N |
| 23) Loss of interest in usual activities                 | Y or N |
| 24) Feeling guilty, worthless or down on yourself        | Y or N |
| 25) Trouble concentrating, thinking, or making decisions | Y or N |
| 26) Crying   | Y or N |
| 27) Feeling negative or pessimistic                      | Y or N |
| 28) Brooding about unpleasant things                     | Y or N |
| 29) Feeling inadequate                                   | Y or N |
| 30) Feeling resentful, irritable, or angry               | Y or N |
| 31) Needing reassurance or help                          | Y or N |
| 32) Feeling sorry for yourself                           | Y or N |

## Appendix D

Locus of Control Scale

Instructions: Below are a series of paired statements. For each numbered item, please circle the response ( a or b ) that best fits your beliefs.

- 1) a. Children get into trouble because their parents punish them too much.  
b. The trouble with most children nowadays is that their parents are too easy with them.
- 2) a. Many of the unhappy things in people's lives are partly due to bad luck.  
b. People's misfortunes result from the mistakes they make.
- 3) a. One of the major reasons we have wars is because people do not take enough interest in politics.  
b. There will always be wars, no matter how hard people try to prevent them.
- 4) a. In the long run people get the respect they deserve in this world.  
b. Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.
- 5) a. The idea that teachers are unfair to students is nonsense.  
b. Most students do not realize the extent to which their grades are influenced by accidental happenings.
- 6) a. Without the right breaks one can not be an effective leader.  
b. Capable people who fail to become leaders have not taken advantage of their opportunities.

- 7) a. No matter how hard you try some people just do not like you.  
b. People who can not get others to like them do not understand how to get along with others.
- 8) a. Heredity plays the major role in determining one's personality.  
b. It is one's experience in life which determine what one is like.
- 9) a. I have often found that what is going to happen will happen.  
b. Trusting to fate has never turned out as well for me as making a decision to take a definite course of action.
- 10) a. In the case of the well-prepared student there is rarely if ever such a thing as an unfair test.  
b. Many times exam questions tend to be so unrelated to course work that studying is really useless.
- 11) a. Becoming a success is a matter of hard work; luck has little or nothing to do with it.  
b. Getting a good job depends mainly on being in the right place at the right time.
- 12) a. The average citizen can have an influence in government decisions.  
b. This world is run by the few people in power, and there is not much the little guy can do about it.
- 13) a. When I make plans, I am almost certain that I can make them work.  
b. It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.
- 14) a. There are certain people who are just no good.  
b. There is some good in everybody.
- 15) a. In my case getting what I want has little or nothing to do with luck.  
b. Many times we might just as well decide what to do by flipping a coin.

16) a. Who gets to be the boss often depends on who was lucky enough to be in the right place first.

b. Getting people to do the right thing depends upon ability, luck has little or nothing to do with it.

17) a. As far as world affairs are concerned, most of us are the victims of forces we can neither understand or control.

b. By taking an active part in political and social affairs, the people can control world events.

18) a. Most people do not realize the extent to which their lives are controlled by accidental happenings.

b. There really is no such thing as luck.

19) a. One should always be willing to admit mistakes.

b. It is usually best to cover up one's mistakes.

20) a. It is hard to know whether or not a person really likes you.

b. How many friends you have depends on how nice a person you are.

21) a. In the long run the bad things that happen to us are balanced by the good ones.

b. Most misfortunes are the result of lack of ability, ignorance, laziness, or all three.

22) a. With enough effort we can wipe out political corruption.

b. It is difficult for people to have much control over the things politicians do in office.

23) a. Sometimes I can not understand how teachers arrive at the grades they give.

b. There is a direct connection between how hard I study and the grades I get.

24) a. A good leader expects people to decide for themselves what they should do.

b. A good leader makes it clear to everybody what their jobs are.

25) a. Many times I feel that I have little influence over the things that happen to me.

- b. It is impossible for me to believe that chance or luck plays an important role in my life.
- 26) a. People are lonely because they do not try to be friendly.
- b. There is not much use in trying too hard to please people, if they like you, they like you.
- 27) a. There is too much emphasis on athletics in highschool.
- b. Team sports are an excellent way to build chracter.
- 28) a. What happens to me is my own doing.
- b. Sometimes I feel that I do not have enough control over the direction my life is taking.
- 29) a. Most of the time I can not understand why politicians behave the way they do.
- b. In the long run the people are responsible for bad government on a national as well as on a local level.

0 = Does not apply or not used    1 = Used somewhat    2 = Used quite a bit    3 = Used a great deal

- |  |   |   |   |   |
|--|---|---|---|---|
| 1. I just concentrated on what I had to do next – the next step. ....                                  | 0 | 1 | 2 | 3 |
| 2. I tried to analyze the problem in order to understand it better. ....                               | 0 | 1 | 2 | 3 |
| 3. I turned to work or another activity to take my mind off things. ....                               | 0 | 1 | 2 | 3 |
| 4. I felt that time would make a difference- the only thing was to wait. .                             | 0 | 1 | 2 | 3 |
| 5. I bargained or compromised to get something positive<br>from the situation. ....                    | 0 | 1 | 2 | 3 |
| 6. I did something that I didn't think would work,<br>but at least I was doing something. ....         | 0 | 1 | 2 | 3 |
| 7. I tried to get the person responsible to change his or her mood. ....                               | 0 | 1 | 2 | 3 |
| 8. I talked to someone to find out more about the situation. ....                                      | 0 | 1 | 2 | 3 |
| 9. I criticized or lectured myself. ....   | 0 | 1 | 2 | 3 |
| 10. I tried not to burn my bridges, but leave things open somewhat. ....                               | 0 | 1 | 2 | 3 |
| 11. I hoped for a miracle. ....  | 0 | 1 | 2 | 3 |
| 12. I went along with fate; sometimes I just have bad luck. ....                                       | 0 | 1 | 2 | 3 |
| 13. I went on as if nothing had happened. ....   | 0 | 1 | 2 | 3 |
| 14. I tried to keep my feelings to myself. ....  | 0 | 1 | 2 | 3 |
| 15. I looked for the silver lining, so to speak;<br>I tried to look on the bright side of things. .... | 0 | 1 | 2 | 3 |
| 16. I slept more than usual. ....  | 0 | 1 | 2 | 3 |
| 17. I expressed anger to the person(s) who caused the problem. ....                                    | 0 | 1 | 2 | 3 |
| 18. I accepted sympathy and understanding from someone. ....   | 0 | 1 | 2 | 3 |
| 19. I told myself things that helped me feel better. ....  | 0 | 1 | 2 | 3 |
| 20. I was inspired to do something creative about the problem. ....                                    | 0 | 1 | 2 | 3 |
| 21. I tried to forget the whole thing. ....  | 0 | 1 | 2 | 3 |
| 22. I got professional help. ....  | 0 | 1 | 2 | 3 |

**Go on to next page**

0 = Does not apply or not used    1 = Used somewhat    2 = Used quite a bit    3 = Used a great deal

- |   |   |   |   |   |
|---|---|---|---|---|
| 23. I changed or grew as a person. ....   | 0 | 1 | 2 | 3 |
| 24. I waited to see what would happen before doing anything. ....   | 0 | 1 | 2 | 3 |
| 25. I apologized or did something to make up. ....  | 0 | 1 | 2 | 3 |
| 26. I made a plan of action and followed it. ....   | 0 | 1 | 2 | 3 |
| 27. I accepted the next best thing to what I wanted.....  | 0 | 1 | 2 | 3 |
| 28. I let my feelings out somehow.....  | 0 | 1 | 2 | 3 |
| 29. I realized that I had brought the problem on myself.....  | 0 | 1 | 2 | 3 |
| 30. I came out of the experience better than when I went in. ....   | 0 | 1 | 2 | 3 |
| 31. I talked to someone who could do something concrete<br>about the problem.....                             | 0 | 1 | 2 | 3 |
| 32. I tried to get away from it for a while by resting or taking a vacation. ....                             | 0 | 1 | 2 | 3 |
| 33. I tried to make myself feel better by eating, drinking,<br>smoking, using drugs, or medications, etc..... | 0 | 1 | 2 | 3 |
| 34. I took a big chance or did something very risky<br>to solve the problem. ....                             | 0 | 1 | 2 | 3 |
| 35. I tried not to act too hastily or follow my first hunch. ....   | 0 | 1 | 2 | 3 |
| 36. I found new faith. ....   | 0 | 1 | 2 | 3 |
| 37. I maintained my pride and kept a stiff upper lip. ....  | 0 | 1 | 2 | 3 |
| 38. I rediscovered what is important in life.....   | 0 | 1 | 2 | 3 |
| 39. I changed something so things would turn out all right.....   | 0 | 1 | 2 | 3 |
| 40. I generally avoided being with people.....  | 0 | 1 | 2 | 3 |
| 41. I didn't let it get to me; I refused to think too much about it.....                                      | 0 | 1 | 2 | 3 |
| 42. I asked advice from a relative or friend I respected. ....  | 0 | 1 | 2 | 3 |
| 43. I kept others from knowing how bad things were.....   | 0 | 1 | 2 | 3 |
| 44. I made light of the situation; I refused to get too serious about it.....                                 | 0 | 1 | 2 | 3 |

**Go on to next page**

0 = Does not apply or not used    1 = Used somewhat    2 = Used quite a bit    3 = Used a great deal

- |   |   |   |   |   |
|---|---|---|---|---|
| 45. I talked to someone about how I was feeling.....  | 0 | 1 | 2 | 3 |
| 46. I stood my ground and fought for what I wanted.....   | 0 | 1 | 2 | 3 |
| 47. I took it out on other people. ....   | 0 | 1 | 2 | 3 |
| 48. I drew on my past experiences; I was in a similar situation before. ...                             | 0 | 1 | 2 | 3 |
| 49. I knew what had to be done, so I doubled my efforts<br>to make things work.....                     | 0 | 1 | 2 | 3 |
| 50. I refused to believe that it had happened.....  | 0 | 1 | 2 | 3 |
| 51. I promised myself that things would be different next time. ....                                    | 0 | 1 | 2 | 3 |
| 52. I came up with a couple of different solutions to the problem. ....                                 | 0 | 1 | 2 | 3 |
| 53. I accepted the situation, since nothing could be done. ....   | 0 | 1 | 2 | 3 |
| 54. I tried to keep my feeling about the problem from interfering<br>with other things.....             | 0 | 1 | 2 | 3 |
| 55. I wished that I could change what had happened or how I felt. ....                                  | 0 | 1 | 2 | 3 |
| 56. I changed something about myself. ....  | 0 | 1 | 2 | 3 |
| 57. I daydreamed or imagined a better time or place<br>than the one I was in.....                       | 0 | 1 | 2 | 3 |
| 58. I wished that the situation would go away or somehow<br>be over with. ....                          | 0 | 1 | 2 | 3 |
| 59. I had fantasies or wishes about how things might turn out. ....                                     | 0 | 1 | 2 | 3 |
| 60. I prayed.....   | 0 | 1 | 2 | 3 |
| 61. I prepared myself for the worst. ....   | 0 | 1 | 2 | 3 |
| 62. I went over in my mind what I would say or do. ....   | 0 | 1 | 2 | 3 |
| 63. I thought about how a person I admire would handle<br>this situation and used that as a model. .... | 0 | 1 | 2 | 3 |
| 64. I tried to see things from the other person's point of view.....                                    | 0 | 1 | 2 | 3 |
| 65. I reminded myself how much worse things could be. ....  | 0 | 1 | 2 | 3 |
| 66. I jogged or exercised. ....   | 0 | 1 | 2 | 3 |

**Stop Here.**

Please use the following scale to indicate the degree of your agreement or disagreement with each of the statements below. Record your numerical answer to each statement in the space provided preceding the statement. Try to describe yourself accurately and generally (that is, the way you are actually in most situations -- not the way you would hope to be).

- +4 = very strong agreement
- +3 = strong agreement
- +2 = moderate agreement
- +1 = slight agreement
- 0 = neither agreement nor disagreement
- 1 = slight disagreement
- 2 = moderate disagreement
- 3 = strong disagreement
- 4 = very strong disagreement

- \_\_\_\_\_ 1. I have difficulty working in a new and unfamiliar situation.
- \_\_\_\_\_ 2. I am optimistic about my work career.
- \_\_\_\_\_ 3. I don't usually tackle problems that others have found to be difficult.
- \_\_\_\_\_ 4. The idea of struggling my way to the top does not appeal to me.
- \_\_\_\_\_ 5. I would prefer a job that is important, difficult, and involves a 50% chance of failure to a job that is somewhat important but not difficult.
- \_\_\_\_\_ 6. I am usually tempted to take on more responsibilities than a job originally entails.
- \_\_\_\_\_ 7. The thought of having to take on a new job would bother me.
- \_\_\_\_\_ 8. I find it especially satisfying to complete an important job that required a lot of effort.
- \_\_\_\_\_ 9. I don't work well under pressure.
- \_\_\_\_\_ 10. I believe that if I try hard enough, I will be able to reach my goals in life.
- \_\_\_\_\_ 11. I take pride in my work.

- \_\_\_ 12. Learning new skills doesn't excite me very much.
- \_\_\_ 13. I only work as hard as I have to.
- \_\_\_ 14. I tend to set very difficult goals for myself.
- \_\_\_ 15. I like tasks that require little effort once I've learned them.
- \_\_\_ 16. I am ambitious.
- \_\_\_ 17. I prefer small daily projects to long-term ones.
- \_\_\_ 18. I really enjoy a job that involves overcoming obstacles.
- \_\_\_ 19. I appreciate opportunities to discover my own strengths and weaknesses.
- \_\_\_ 20. I find little satisfaction in working hard.
- \_\_\_ 21. I prefer a job that requires original thinking.
- \_\_\_ 22. I like a job that doesn't require my making risky decisions.
- \_\_\_ 23. I only work because I have to.
- \_\_\_ 24. I often succeed in reaching important goals I've set for myself.
- \_\_\_ 25. I feel relief rather than satisfaction when I have finally completed a difficult task.
- \_\_\_ 26. I perform best in competitive situations.
- \_\_\_ 27. Constant work toward goals is not my idea of a rewarding life.
- \_\_\_ 28. I more often attempt difficult tasks that I am not sure I can do than easier tasks I believe I can do.
- \_\_\_ 29. I am not satisfied unless I excel in my work.
- \_\_\_ 30. I don't like to have the responsibility of handling a difficult situation.
- \_\_\_ 31. I prefer my work to be filled with challenging tasks.
- \_\_\_ 32. I am hesitant about making important decisions at work.
- \_\_\_ 33. When I do a job, I set high standards for myself regardless of what others do.

- \_\_\_\_\_ 34. I try to anticipate and avoid situations where there is a moderate chance of failure.
- \_\_\_\_\_ 35. I would rather do something at which I feel confident and relaxed than something that is challenging and difficult.
- \_\_\_\_\_ 36. Others cannot make me succeed or fail.